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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,498	10/24/2002	Haren S. Gandhi	FCHM 0106 PUS / 201-0555	9078
28395	7590	02/10/2005	EXAMINER	
BROOKS KUSHMAN P.C./FGTL 1000 TOWN CENTER 22ND FLOOR SOUTHFIELD, MI 48075-1238			JOHNSON, CHRISTINA ANN	
			ART UNIT	PAPER NUMBER
			1725	

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/065,498

Applicant(s)

GANDHI ET AL.

Examiner

Christina Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/9/04, 11/8/04.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, claims 1-16 and 18-20 in the reply filed on August 9, 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claim 17 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on August 9, 2004.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 4-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 4 recites the limitation "wherein the ratio of PM to Rh is between 9:1." This limitation renders the claim indefinite because it is not clear whether application is claiming a range of ratios or a single point. It is suggested that applicant delete "between" to overcome this rejection. Similar indefinite limitations can be found in claim 5.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 6, 16, and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Evans et al.

Evans et al. (US 4,237,032) discloses a catalyst composition useful in the purification of exhaust gas from internal combustion engines. The catalyst composition comprises a substrate, a washcoat as a support on the substrate, wherein the washcoat is a perovskite such as $\text{La}_{0.8}\text{Ba}_{0.2}\text{Co}_{0.987}\text{Rh}_{0.013}\text{O}_3$, and a catalytically active coating material attached to said washcoat comprising at least one of the precious metals platinum, rhodium, ruthenium, palladium, iridium, osmium, gold, and silver (column 6, claim 6). With reference to Example 1, the reference specifically teaches the preparation of a catalyst comprising both platinum and rhodium with a Pt to Rh ratio of 11:1 and a total loading of 40 g/ft³, which yields a Pt loading of 36.7 g/ft³ (column 4, lines 1-20).

The limitations in claim 1 and 18, i.e. “optimizing storage of NOx” and “optimizing the reduction of hydrocarbon, NOx, and CO emissions under stoichiometric air/fuel ratios,” are noted by the examiner. These limitations have been regarded as statements of intended use. While intended use recitations cannot entirely be disregarded, in composition and article claims, the intended use must result in a structural difference

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between the claimed invention and the prior art in order to patentably distinguish the claimed invention over the prior art. *In re Casey*, 370 USPQ 235 and *In re Otto*, 312 USPQ 458. It is the position of the examiner that the prior art structure is capable of performing the intended use and therefore meets the instant claims.

The process limitations in claims 2-3 are noted. However, when the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to applicant to establish that their product is patentably distinct and not the examiner to show the same process of making. *In re Brown*, 173 USPQ 685 and *In re Fessmann*, 180 USPQ 324.

The catalyst is loaded on a ceramic honeycomb (refer to the examples) for use in a catalytic converter which is considered to meet "coated directly onto the exhaust emitting component" required by claim 20. The catalyst arrangement taught by the reference meets the arrangement required by claim 16.

As each and every element of the claimed invention is taught in the prior art as recited above, the claims are anticipated by Evans et al.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claims 4-5 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evans et al. as applied above for claims 1-3, 6, 16, and 18-20.

The teachings of Evans et al. are applied as above for claims 1-3, 6, 16, and 18-20.

With respect to claims 4-5 and 7, the difference between the reference and the claims is that the reference does not disclose the ratio between PM and Rh required by claims 4-5 or the loading of PM required by claim 7. However, one of ordinary skill would recognize that the catalytic efficiency and activity of the catalyst would depend upon the amount of active metal loaded upon the washcoat. Because the amounts of these metals would be recognized by one of ordinary skill as result effective variables, one of ordinary skill would have been motivated to optimize the amounts of metals present in order to obtain the most effective catalyst. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the instantly claimed ranges through process optimization, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Boesch*, 205 USPQ 215.

Regarding claims 8-10, the reference does not disclose the exact formulae for the first catalyst as recited in the instant claims. However, the reference teaches a specific perovskite " $\text{La}_{0.8}\text{Ba}_{0.2}\text{Co}_{0.987}\text{Rh}_{0.013}\text{O}_3$ " and suggests that other base metals, including manganese and iron, and other precious metals, including platinum, may be used in the perovskite (column 2, lines 45-65, column 3, lines 5-20, and Example 1). It is further taught that the amount of metal used in the perovskite may be varied (column 3,

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lines 20-35). Therefore, it is the position of the examiner that the reference teaches a small genus which places the claimed species within the possession of the public as in *In re Schaumann*, 572 F.2d 312, 197 USPQ 5 (CCPA1978), and as such, the claimed species would have been obvious to one having ordinary skill.

10. Claims 1-7, 11-14, 16, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 941 757.

EP 0 941 757 discloses a catalyst composition useful for the purification of nitrogen oxides. The catalyst composition comprises first and second powders (page 2, lines 31). The first powder comprises a porous carrier and at least one noble metal loaded on the porous carrier (page 2, lines 31-32). The noble metal is selected from platinum, palladium, and rhodium, with combinations of palladium and rhodium being preferred (page 2, lines 54-56). The noble metal material is carried on alumina, preferably combined with an additive such as cerium, barium, and zirconia (page 3, lines 5-20). The amount of the noble metal is from 0.1-10 g/L (page 3, lines 1-8).

The second powder comprises a first double oxide having the general formula $(Ln_{1-\alpha}A_{\alpha})_{1-\beta}BO_{\delta}$ where α is a number that is greater than 0 and less than 1, β is a number that is greater than 0 and less than 1, δ is a number that is greater than 0, Ln is at least one first element selected from the group consisting of La, Ce, Nd, and Sm, A is at least one second element selected from the group consisting of Mg, Ca, Sr, Ba, Na, K, and Cs, and B is at least one third element selected from the group consisting of Fe, Co, Ni, and Mn (page 2, lines 33-41).

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The difference between the reference and the claims is that the reference does not teach specifically that 1-60% of the cobalt B cation sites are substituted with a metal selected from the group consisting of platinum, rhodium, iron, copper, and manganese, as required by claim 1. However, the reference teaches that at least one third element may be selected, which suggests that more than one element may be chosen.

Therefore, it is the position of the examiner that the reference teaches a small genus which places the claimed species within the possession of the public as in *In re Schaumann*, 572 F.2d 312, 197 USPQ 5 (CCPA1978), and as such, the claimed species would have been obvious to one having ordinary skill.

The limitations in claim 1 and 18, i.e. "optimizing storage of NO_x" and "optimizing the reduction of hydrocarbon, NO_x, and CO emissions under stoichiometric air/fuel ratios," are noted by the examiner. These limitations have been regarded as statements of intended use. While intended use recitations cannot entirely be disregarded, in composition and article claims, the intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention over the prior art. *In re Casey*, 370 USPQ 235 and *In re Otto*, 312 USPQ 458. It is the position of the examiner that the prior art structure is capable of performing the intended use and therefore meets the instant claims.

The process limitations in claims 2-3 and 13 are noted. However, when the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to applicant to establish that their product is patentably distinct and

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not the examiner to show the same process of making. *In re Brown*, 173 USPQ 685 and *In re Fessmann*, 180 USPQ 324.

The catalyst is loaded on a ceramic honeycomb (page 5, line 5) for use in a catalytic converter which is considered to meet "coated directly onto the exhaust emitting component" required by claim 20. The catalyst arrangement taught by the reference (page 4, line 52 – page 5, line 27) meets the arrangement required by claim 16.

With respect to claims 4-7, a further difference between the reference and the claims is that the reference does not disclose the ratio of palladium and rhodium or the specific amount of palladium alone relative to rhodium used (when a combination of metals are used). However, the reference establishes that the noble metal of the first powder is a result effective variable. Refer to page 2, line 56 – page 3, line 5. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the instantly claimed ranges through process optimization, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Boesch*, 205 USPQ 215. One would have been motivated to do so in order to obtain the best results from the catalyst.

With respect to claims 12 and 14, a further difference between the reference and the claims is that the reference does not disclose the amount of barium oxide or Ce-Zr particles contained in the support material. However, the reference establishes that the presence of these materials is a result effective variable. Refer to page 3, lines 7-16. It

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would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the instantly claimed ranges through process optimization, since it has been held that there the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Boesch*, 205 USPQ 215. One would have been motivated to do so in order to improve the properties of heat resistance properties of the support.

Allowable Subject Matter

11. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

12. Applicant's arguments filed August 9, 2004 and November 8, 2004 have been fully considered but they are not persuasive.

With respect to the Evans et al. reference, applicant first argues that Evans neither teaches nor suggests the use of two catalysts to perform the two distinct functions claimed. However, applicant is reminded that the instant claims are directed towards a product and not a process of using the product. In this case, the Evans reference discloses a composition comprising two catalysts which are structurally identical to the composition claimed. Applicant has failed to distinguish the claimed structure over the structure taught by the reference or demonstrate that the different functions claimed result in a different structure.

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Next, applicant argues that the Evans catalyst is not directed to a catalyst system that is capable of handling both lean and stoichiometric air/fuel ratios, and in particular capable of reducing emission of air fuel ratios greater than 28. This argument has been considered but is not persuasive. As discussed above, the instant claims are directed towards a product and not a process of using the product. Applicant appears to be relying on the intended use to distinguish the product which is not proper. While intended use recitations cannot entirely be disregarded, in composition and article claims, the intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention over the prior art. *In re Casey*, 370 USPQ 235 and *In re Otto*, 312 USPQ 458. It is the position of the examiner that the prior art structure is capable of performing the intended use and therefore meets the instant claims. Also, the composition is not even claimed as capable of reducing emissions at air fuel ratios greater than 28. Therefore, applicant's arguments with respect to the intended use are not commensurate in scope with what has been claimed.

Applicant further argues that barium can be used in a much greater percentage than what is used in Evans. However, the amounts argued by applicant are not recited in the instant claims. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the amount of barium) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26

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USPQ2d 1057 (Fed. Cir. 1993). The broader range of barium claimed is met by the reference.

Finally, applicant argues that Evans never teaches that part of the lanthanum at the A site of the perovskite structure can be substituted with magnesium and potassium. However, the instant claims alternatively require barium or magnesium or potassium. The reference teaches the use of barium which is sufficient to meet the instant claims.

With respect to the rejection over the EP reference, applicant argues that the reference does not teach the use of a perovskite structure nor does it teach the specific substitution called for by the claimed invention. This argument has been considered but is not persuasive. The reference teaches the use of an oxide having the perovskite structure. Refer to page 2 of the EP reference. With respect to the specific substitutions claimed, this goes to the heart of the 103 rejection set forth above. Applicant has failed to rebut the *prima facie* case of obviousness set forth by the examiner.

Applicant further argues that the EP reference fails to teach a catalyst system that includes the use of two catalysts to perform two distinct functions. However, applicant is reminded that the instant claims are directed towards a product and not a process of using the product. In this case, the EP reference discloses a composition comprising two catalysts which are structurally identical to the composition claimed. Applicant has failed to distinguish the claimed structure over the structure taught by the reference or demonstrate that the different functions claimed result in a different structure.

Finally, applicant argues that the claimed catalyst system is directed for use in reducing emissions under lean and stoichiometric air/fuel ratios while the EP reference is entitled "Device for Purifying Oxygen Rich Exhaust gas." This argument has been considered but is not persuasive. As discussed above, the instant claims are directed towards a product and not a process of using the product. Applicant appears to be relying on the intended use to distinguish the product which is not proper. While intended use recitations cannot entirely be disregarded, in composition and article claims, the intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention over the prior art. *In re Casey*, 370 USPQ 235 and *In re Otto*, 312 USPQ 458. It is the position of the examiner that the prior art structure is capable of performing the intended use and therefore meets the instant claims. Also, the composition is not even claimed as capable of reducing emissions at air fuel ratios greater than 28. Therefore, applicant's arguments with respect to the intended use are not commensurate in scope with what has been claimed.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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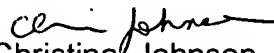
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Johnson whose telephone number is (571) 272-1176. The examiner can normally be reached on Monday-Friday, 7:30-5, with Alternate Friday's off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Christina Johnson
Patent Examiner
Art Unit 1725
2/8/05

CAJ
February 8, 2005